SUMMARY

The Missouri Department of Transportation (MoDOT) and the Federal Highway Administration (FHWA) are proposing to reconstruct and widen Interstate 29/35 with new interchange configurations, structures and roadways in Clay and Jackson Counties. This includes the possible rehabilitation or removal of the existing bridge over the Missouri River. The study corridor extends approximately 4.7 miles (7.6 kilometers), from just north of Missouri Route 210/Armour Road in Clay County and continues south on I-29/35/US 71, to the northwest corner of the central business district (CBD) freeway loop in downtown Kansas City, Missouri. The project includes the north side of the CBD Loop, designated as both I-35/70 and US 24/40. This Environmental Impact Statement (EIS) examines operational and capacity modifications for this section of I-29/35 and I-35/70 and considers completing a major rehabilitation of the existing I-29/35 Paseo Bridge over the Missouri River and constructing a new companion bridge or replacing the existing bridge with an entirely new structure or structures. The EIS describes the corridor, discusses development of alternatives, examines potential impacts of the alternatives considered and identifies a preferred alternative. The location of the I-29/35 Study Corridor within the Kansas City region is shown in Figure S-1, Project Location Map.

The preferred alternative is the alternative that best meets the project Purpose and Need, balances the benefits and impacts of the project, and is responsive to public and agency comments. The preferred alternative has been identified based on engineering analysis related to probable project costs, constructability, public input and based on the evaluation of the social, economic and environmental impacts of the potential alternatives. The NEPA Section 404 merged process has not been initiated and preliminary coordination with the U.S. Army Corps of Engineers (USACE) indicates the project will be permitted under an Individual Permit.

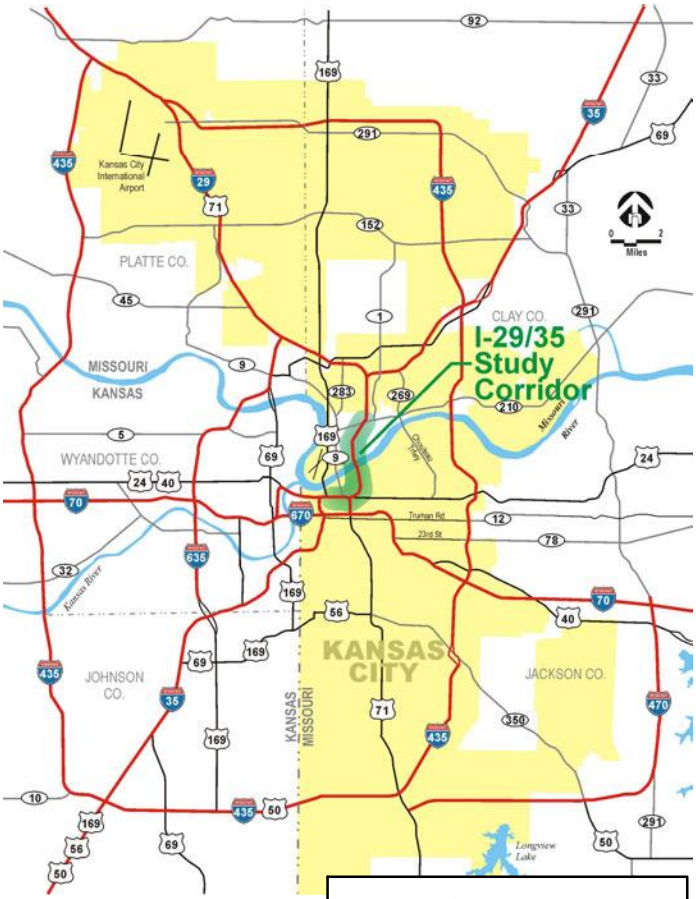


Figure S-1
Project Location Map

A. Purpose and Need for the Project

The Purpose and Need was originally developed in support of the regional goals and objectives defined in Transportation Outlook 2030 and the Northland~Downtown MIS as well as the City of Kansas City's Comprehensive Plan entitled "Focus".

A Major Investment Study (MIS), the Northland~Downtown MIS, completed in 2002 described transportation problems and identified a recommended strategy, including capacity and operational modifications to I-29/35 and to the Missouri River crossing. Additionally, the corridor is listed in the Kansas City area Long Range Transportation Plan as a regionally significant project.

These previous study efforts served as background and context for developing the purpose and need in this EIS. The goals and objectives addressed in the Northland~Downtown MIS were; System Preservation, Personal Mobility and Quality of Life, Safety, Land Use and Development, Regional Economy, System Management and Efficiency and Cost Effectiveness. The Downtown Northland MIS studied all three river crossings to the CBD and the "Preferred Strategy" in that report concluded that the I-29/I-35 (Paseo Crossing) is where additional highway capacity needs to be added. The transit and non-motorized strategies were identified in the MIS on other existing or proposed bridges to the CBD and were undertaken by the Kansas City Area Transportation Authority (KCATA), the transit service provider within the corridor. The initiative to fund a major transit capacity project that included a bicycle and pedestrian crossing of the Missouri River was defeated by voters. Since that time, the KCATA has begun study of bus rapid transit within the study area. Multimodal issues are considered in this EIS.

The purpose and need of this project is to efficiently and safely move people, goods and service from north and south of the river along this 4.7 mile (7.6 kilometer) section of I-29/35. The proposed action would address several needs:

- Replace the deteriorating infrastructure and modify interchanges to improve traffic operations and decrease accidents.
- Improve traffic safety.
- Improve the interstate system linkage across the Missouri River.
- Provide sufficient vehicle capacity and improve traffic operation to accommodate travel demands across the Missouri River and within the study corridor.
- Improve access to the Kansas City Central Business District (CBD) and other major activity centers.
- Facilitate the movement of trucks.

B. Description of Proposed Action

The proposed action consists of operational and capacity modifications to the existing I-29/35 roadway and bridge corridor from the northern terminus at M-210 (Armour Road) to a connection with the existing CBD freeway loop which encompasses downtown Kansas City, Missouri – the southern terminus. Included in the proposed action is the widening of the existing Paseo Bridge crossing which currently carries I-29/35 over the Missouri River. This proposed action includes improving the corridor's connection to the CBD Loop and the connection of the Broadway Extension (US 169) with the downtown street and freeway loop system. The northern side of the CBD Loop, designated as I-35/70 and US 24/40, is included in the proposed action.

C. Initial Concepts

A wide range of concepts were initially considered for the I-29/35 corridor. Initial concepts are consistent with the corridor definition and its limits as established by the termini of this EIS – M-210 to the CBD Loop, including the Broadway Extension (US 169) connection. A

reconfirmation of the strategies considered in the Northland~Downtown MIS, the prior corridor multi-modal planning study completed in 2002, was conducted as they relate to the proposed action.

Initial concepts for the I-29/35 Study Corridor include the following:

- ***No-Build Concept*** – Maintain the existing pavement and bridges in the corridor.
- ***Reconstruction Concept*** – Reconstruct the existing corridor in-kind.
- ***Parallel Arterials Concept*** – Rebuild or modify other downtown river bridges and connecting arterial routes.
- ***Transportation System and Travel Demand Management Concept*** – Reduce cross-river traffic through car pools, low-cost transit service, and improve traffic flow with low-cost projects.
- ***High Capacity Transit Concept*** – Construct fixed guideway, bus rapid transit or other high capacity transit projects extending from the Northland, over the Missouri River, into Downtown. The Kansas City Area Transportation Authority (KCATA) has the responsibility for development of this concept. The Northland-Downtown MIS had identified a light rail transit alignment over the Missouri River near the Heart of America Bridge. A light rail project was not pursued further when the funding initiative failed. The KCATA is now developing plans to provide bus rapid transit service between downtown and the Northland.
- ***Bicycle and Pedestrian Concept*** – Provide bicycle and pedestrian facilities across the Missouri River, better connecting the Northland with Downtown. The Northland~Downtown MIS had identified including a bicycle/pedestrian crossing as part of a proposed new light rail transit bridge over the Missouri River, a project which was not pursued when the funding initiative failed. This concept would examine how to provide a bicycle and pedestrian crossing as part of a new Missouri River Crossing at I-29/35 or at the Heart of America Bridge.
- ***Build Concepts*** – Construct highway widening and bridge modifications within the study corridor, including: Build Concept 1 (Widen to Six Lanes); Build Concept 2 (Widen to Six Lanes/Reserve for Two Additional Lanes); Build Concept 3 (Widen to Six Lanes/Reserve for Two Additional HOV Lanes); Build Concept 4 (Reversible Lanes); Build Concept 5 (New Alignment); or Build Concept 6 (Geometric Modifications).

The first step analyzed how each of the initial concepts would generally achieve the project goals identified in the purpose and need. Concepts were reviewed and further refined through coordination with stakeholder groups, public officials, and others who had an interest in a particular element of the project. Table S-1 provides a summary of the generalized screening evaluation completed for the Initial Concepts.

A traffic analysis was completed utilizing the regional travel demand model developed and maintained by the region's Metropolitan Planning Organization (MPO), Mid-America Regional Council (MARC). Level of service (LOS) is a qualitative measure used by transportation planners and engineers to characterize the operational conditions within a traffic stream and its perception by motorists. It is a means of evaluating traffic conditions that would be encountered by a driver traveling through an intersection, interchange or open section of roadway under peak-hour traffic volume conditions. The greater the traffic density on a highway, the lower the LOS will be. Letters A through F are used to denote LOS, with LOS A being the most favorable driving condition, LOS D or E considered acceptable during peak travel times and LOS F representing a failure of traffic operations.

Table S-1
Screening of the Initial Concepts

	Initial Concept	Purpose and Need							Other Impacts				
		Roadway Deficiencies	Traffic Safety	System Linkage	Transportation Capacity	Traffic Operation	Economic Development	Intermodal/ NAFTA	Built Environment	Natural Areas	Social Environment	Section 4(f) Properties	Project Cost
	No-Build	x	x	○	x	x	-	-	○	○	○	○	L
	Reconstruction	x	○	○	x	x	○	○	○	○	○	○	L
	Parallel Arterials	x	○	○	x	-	-	x	-	○	○	○	M
	Travel Demand Management	x	x	○	x	○	○	○	○	○	○	○	L
	Transportation System Management	x	●	○	x	○	○	○	○	○	○	○	L
	High Capacity Transit	x	x	○	x	x	○	x	○	○	○	○	M
	Bicycle and Pedestrian	x	x	○	x	x	○	x	○	○	○	○	M
BUILD CONCEPTS	**1 Widen to Six Lanes ***	●	●	●	◒	●	◒	●	-	○	○	-	H
BUILD CONCEPTS	**2 Widen to Six Through Lanes / Reserve Two Additional***	●	●	●	●	●	◒	●	-	○	○	-	H
BUILD CONCEPTS	**3 Widen to Six Lanes / Reserve Two additional for HOV***	●	●	●	◒	◒	◒	●	-	○	◒	-	H
BUILD CONCEPTS	**4 Reversible Lanes**	●	◒	●	●	◒	◒	●	-	○	○	-	H
BUILD CONCEPTS	**5 New Alignment**	●	●	●	○	●	◒	●	x -	-	-	-	H
BUILD CONCEPTS	**6 Geometric Modifications**	●	●	●	x	x	○	●	○	○	○	-	M

* In addition. Auxiliary lanes located between some interchanges.
○= Neutral, - = Negative Impact, ◒= Moderately Addresses Needs, ●= Substantially Addresses Needs,
x = Determined Not to Meet Purpose and Need; Project Cost: L = Low, M = Medium, H = High.
Shaded concepts carried forward for further consideration (i.e., alternatives).

The Year 2030 forecast volumes for a six-lane wide facility are shown to result in a LOS D for southbound travel during the AM peak hour and a LOS E for northbound travel during the PM peak period. The traffic forecasts predict that the LOS E would be reached between the years 2025-27 and that LOS F would be reached sometime beyond the year 2040 given anticipated growth trends. This information indicates that a six-lane facility would provide improved travel mobility relative to existing conditions for the next 20 years but that an eight-lane travel corridor would be needed beyond that time to improve upon the anticipated LOS E/F condition.

For that reason, the build concepts that allowed for the ultimate widening of I-29/35 to eight lanes when needed in the future were carried forward as alternatives for further consideration in this EIS. Because of this expectation, Build Concept 1 would be constructed initially as part of Build Concept 2 that would allow for construction of eight through lanes if warranted in the future. Thus, Build Concept 1 is not carried forward as a separate concept; it is considered to be the initial phase of the Build Concept 2. The results of the concept evaluations are summarized in Table S-1, showing the combined build concept that was carried forward for more detailed evaluation in this EIS. For a more detailed discussion of the traffic analysis, see Chapter II, Section G of the Draft EIS (DEIS).

The remaining concepts carried forward for further consideration were described in additional detail. The alternatives included the following:

- No-Build
- Widen to Six Through Lanes / Reserve for two additional lanes
- Widen to Six Through Lanes / Reserve for two additional High Occupancy Vehicle Lanes

D. Alternatives

1. ROADWAY AND BRIDGE DESIGN CHARACTERISTICS

The build concept would include widening of the existing four-lane I-29/35 corridor from the existing M-210/Armour Road Interchange to the CBD Loop. The general concept, consisting of an initial three/ultimate four lanes in each direction with a closed median, is shown in Figure S-2. As shown, the potential changes would include wider inside and outside shoulders. If HOV lanes are to be designated in the future, the inside lanes would be reserved for exclusive HOV use.

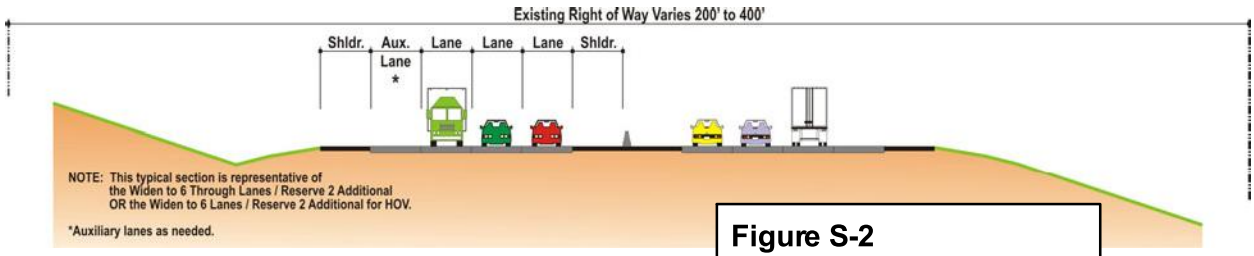


Figure S-2
Roadway Typical Section

2. PASEO BRIDGE ANALYSIS

A number of alternative roadway and bridge alignments were investigated for the Missouri River crossing of the I-29/35 corridor. Modifications considered included the widening of the existing roadway and Paseo Bridge crossing to provide additional mainline traffic lanes. However, the existing Paseo Bridge is a cable suspension bridge and cannot be widened. New bridge alignments studied were located immediately upstream, downstream or centered on the current bridge alignment. These alternatives vary in the magnitude of the roadway centerline shift necessary to construct the modifications. The location study concluded that if the traffic were to be maintained during construction, the new alignment should be located immediately downstream from the existing alignment for all of the bridge options because of constraints created by existing development and hazardous waste sites. The option of closing the Paseo Bridge, removing it, and rebuilding a new bridge(s) on the current location may be considered, but would not be acted upon until further consultation with the public and local governmental agencies takes place.

Three alignment options were identified as alternatives for addressing the long-term maintenance demands of the existing Paseo Bridge and increasing the vehicular traffic capacity of the crossing. Exhibit S-1 shows the general configuration of these three options.

- ***Option 1 (Companion Bridge)*** – Add a companion bridge to the existing Paseo Bridge and complete an in-depth rehabilitation to the existing bridge to extend the design life from 10-15 years (2005 rehabilitation) to 50 years.

- ***Option 2*** – **(Two New Bridges or New Single Bridge)** Replace the existing Paseo Bridge with two new bridges or one larger bridge constructed within the same project footprint.

- ***Option 3 (New Single Bridge)*** – Replace the existing Paseo Bridge with one new bridge off-set from existing bridge.

3. INTERCHANGE ANALYSIS

The EIS analyzed several options at each interchange location within the corridor. A number of, potential interchange types were identified at each location. The benefits and disadvantages of each interchange type were reviewed based on engineering feasibility (i.e., could it be built), traffic requirements, and gross-level impacts to the nearby environment, including the natural and man-made environments. The initial interchange layouts at each location were reviewed and further refined through coordination with stakeholder groups, public officials, and others who had an interest in that particular element of the project. While exact interchange configurations are not specified in this EIS, the interchange analysis was used to demonstrate feasibility of specific interchange types and was used to determine an expected maximum footprint for changes.

4. DESCRIPTION OF ALTERNATIVES

Following the evaluation of the initial concepts, alternatives were defined based on the analysis of the Missouri River bridge crossing and potential interchanges. As shown in Table S-1, the alternatives are comprised of the selected build concepts and the No-Build Concept for comparison. The build alternatives represent Build Concept 2, Widen to Six Through Lanes, Reserve for Two Additional Lanes in the future.

For evaluation purposes, the study corridor was divided into three subcorridors – the North Subcorridor, the River Crossing Subcorridor and the CBD North Loop Subcorridor. The alternatives, by subcorridor, are summarized in the following section. A plan view of each alternative is included in Appendix C, Alternatives Plates in the DEIS. A plan view of the Preferred Alternative is included in Appendix C of the FEIS. The locations of the subcorridors are illustrated in Figure S-3.

North Subcorridor (M-210/Armour Road to 14th Avenue)

- ***No-Build Alternative*** – This alternative includes only minor short-term activities that would be completed throughout the life of the project (anticipated to be 30 years approximately between 2010 and 2040), including pavement overlays, routine maintenance and bridge repair.

- ***Build Alternative*** – The Build Alternative includes widening the I-29/35 mainline to six through lanes and reserving for two additional lanes in the future and modifying the interchange at M-210/Armour Road and the half interchange at 16th Avenue.

River Crossing Subcorridor (14th Avenue to Dora Street)

- ***No-Build Alternative*** – Under this alternative, the I-29/35 Corridor would remain in its present configuration and location and a new bridge over the Missouri River would not be constructed. This alternative includes only minor short-term activities that would be completed throughout the life of the project, including pavement overlays, routine maintenance and bridge repair. The bridge repair would include the corridor roadway bridges, as well as a major rehabilitation plan that would extend the life of the existing I-29/35 Paseo Bridge. It would include pavement mill and overlays to maintain the driving surface of the interstate.

- ***Build Alternatives*** – Within this subcorridor, the build alternative includes widening the I-29/35 mainline initially to six through lanes with sufficient right-of-way to enable future

widening to eight through lanes and rehabilitating or replacing the I-29/35 Paseo Bridge, as well as several corridor interchange options. The build alternative combinations within this subcorridor include:

- ***Alternative A*** – Alternative A consists of rehabilitating the existing I-29/35 Paseo Bridge and converting it to a one-way bridge for southbound traffic. A new companion bridge would be constructed immediately adjacent to and downstream from the existing bridge. This build alternative includes widening the I-29/35 mainline and assumes constructing braided ramps at Bedford Avenue and Levee Road and a modified interchange at Front Street.

- ***Alternative B*** – This alternative includes the construction of two new bridge structures, with one bridge carrying southbound traffic and one bridge carrying northbound traffic or one larger bridge constructed within the same project footprint. This build alternative includes widening the I-29/35 mainline and assumes constructing braided ramps at Bedford Avenue and Levee Road and a modified interchange at Front Street. Two different interchange types at Front Street have been identified as possible options including a modified diamond and single-point urban interchange, which are labeled in Chapter II, Section H. 2. b. as B-1 and B-2 in the DEIS. These two interchange types were used to determine the impacts for Alternative B.

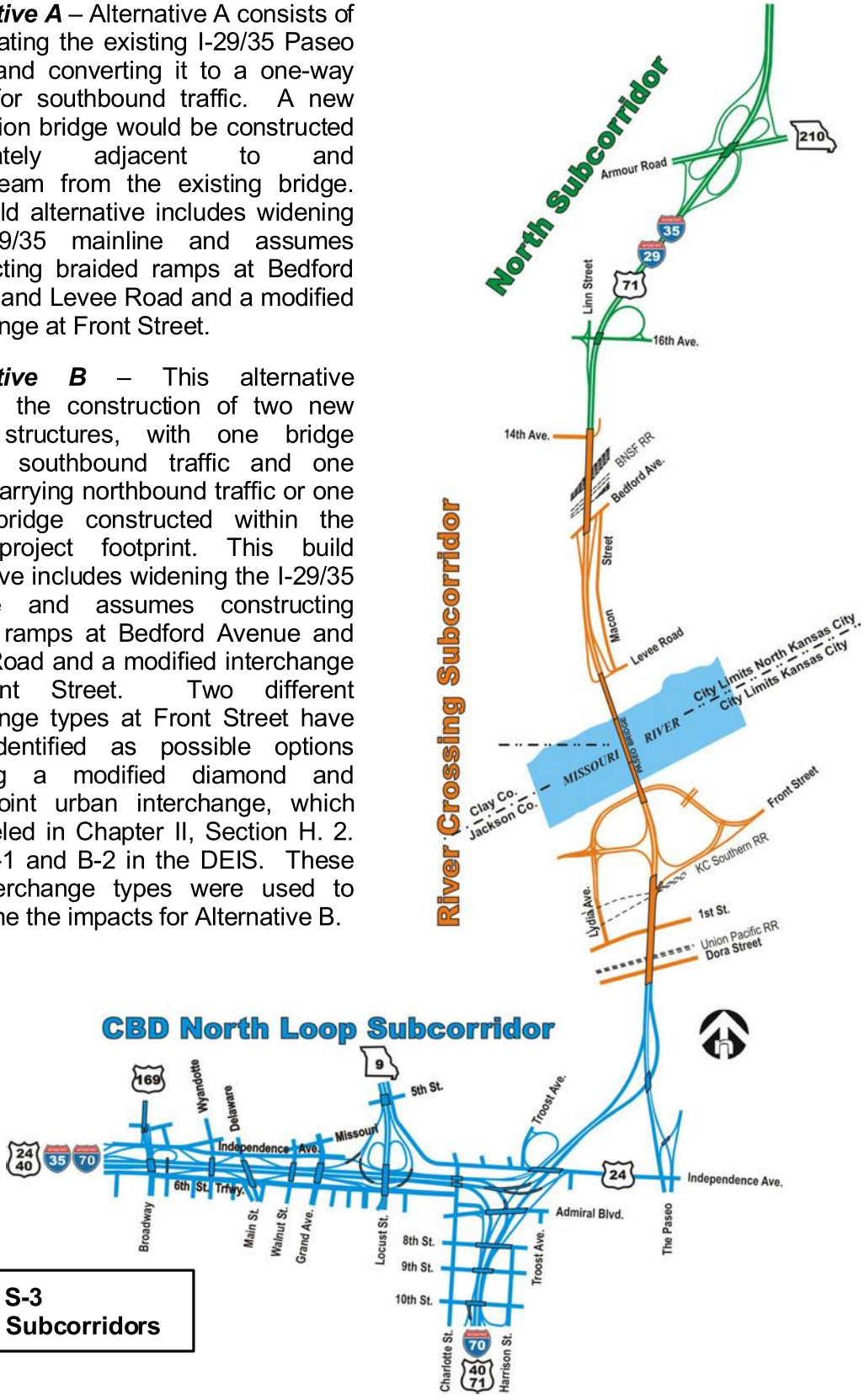


Figure S-3
I-29/35 Subcorridors

- ***Alternative C*** – This alternative includes the construction of one new bridge downstream of the existing Paseo Bridge carrying both northbound and southbound traffic. This build alternative also includes widening the I-29/35 mainline and assumes constructing braided ramps at Bedford Avenue and Levee Road and a modified interchange at Front Street.

CBD North Loop Subcorridor (Dora Street to Broadway Boulevard)

- ***No-Build Alternative*** – This alternative includes only minor short-term activities that would be completed throughout the life of the project, including pavement overlays, routine maintenance and bridge repair.

- ***Build Alternatives*** – Within this subcorridor, the build alternatives include modifications to the north leg of the CBD Loop, as well as several corridor interchange options. There are two build alternative combinations within this subcorridor.

  - ***Alternative A*** – This build alternative includes widening the I-29/35 mainline from Dora Street to the northeast corner of the CBD Loop. From there to just west of Broadway Boulevard, the mainline's current six-lane section would be maintained with minor ramp and lane modifications to improve operations and safety. The exit ramps from north bound I-35 to US 24/Independence Avenue and from I-70 WB at Admiral, as shown in the Preferred Alternative, are being removed due to the short weave distances between the exit and entrance ramps in this location. Other access points are available nearby to accommodate individuals who desire to exit the interstate system in this corner of the Loop. The US 24/Independence Avenue, M-9 and Main Street interchanges would remain in their current configurations.

    The existing Paseo Boulevard left-hand entrance and exit is shown to be converted to a right-hand entrance and exit. The Broadway Boulevard interchange could potentially be converted to a Single Point Urban Interchange (SPUI) and the I-29/35 mainline ramps to and from the north would be removed.

  - ***Alternative B*** – This build alternative includes widening the I-29/35 mainline from Dora Street to the northeast corner of the CBD Loop. The mainline from the northeast corner of the CBD Loop to just west of Broadway Boulevard maintains the current six-lane mainline section, but includes ramp and lane modifications to improve operations and safety.

    Within this alternative, access from the US 24/Independence Avenue westbound loop ramp to I-35 southbound/I-70 westbound is shown to be relocated as US 24/Independence Avenue is converted to a continuous frontage road from the northeast corner of the CBD Loop to the Broadway Boulevard interchange. Direct access from Sixth Street to I-29/35 northbound is added. The M-9 directional interchange would be converted to an at-grade interchange. Operations and impacts were assessed assuming that in this alternative the Broadway Boulevard interchange would be converted to a Single Point Urban Interchange (SPUI).

E. High Occupancy Vehicle (HOV) Lane Analysis

This analysis was completed in order to determine if HOV lanes should be considered if a future widening from six to eight lanes is determined to be warranted and if funding is available. The physical layout of designating HOV lanes would differ very little from designating general purpose lanes and could be included as part of any of the build alternatives. An HOV Alternative would differ only by lane markings and signage limiting the use of the inside lanes to higher occupancy vehicles during peak hours.

A comparison of traffic operations for the HOV and the non-HOV build alternatives is provided in Table S-2. The analysis of forecasted regional travel statistics indicates that the travel time savings from HOV lanes for this section of I-29/35 would lead to a small increase in HOV trips and a reduction in Vehicle Miles Traveled as compared to the No-Build. The reservation of two lanes, one in each direction, of I-29/35 for HOV use would not reduce the level of service on the general purpose lanes from LOS D. This analysis does not support the further consideration of HOV lanes as part of the Preferred Alternative of this EIS. However, this would not preclude the designation of two lanes for HOV usage as part of a separate systemic regional initiative designed to support a shift to non-single occupant vehicles. The operational modifications associated with constructing two lanes as HOV lanes could also be revisited when a future eight-lane section is considered and possibly constructed.

Table S-2
HOV Lane Alternative Comparison (2030)

Factor	No-Build Alternative	6-Lane Reserve 2	6-Lane Reserve 2 HOV	Initial 6-lane Alternative
Level of Service (2030)	F	D	D	E
Crashes (2030) Total	2,881	1,240	1,223	n/a
Change in Vehicle Miles from No-Build	N/A	+14,100	-1,100	-3,200
Change in Vehicle Hours from No-Build	N/A	-5,500	-4,300	-2,100
Travel Time Savings (minutes)	-	-	0.3	-
Increase in HOV Vehicle Trips Per Day	-	-	2,386	-
Corridor Vehicle Occupancy	1.53	1.53	1.58	1.53

F. Preferred Alternative and Summary of Major Impacts

NOTE: Based upon public comment the Preferred Alternative has been modified in this FEIS from that described in the DEIS. The change is as follows:

CBD North Loop Alternative A, as described in the DEIS, has replaced CBD North Loop Alternative B as the Preferred Alternative within the CBD North Loop Subcorridor.

The engineering, traffic, environmental, social and economic impacts of each alternative within each subcorridor were evaluated and compared. The combination of the best subcorridor alternatives formed the Preferred Alternative for the project. MoDOT will be reviewing this alternative for efficiencies during the design process.

Exhibits S-2a and S-2b, Summary of Impacts, provides an overall comparison of the engineering, environmental and social/economic benefits and impacts of the project alternatives. Wherever possible, these key factors that define and characterize the alternatives have been evaluated using quantifiable measures. In other cases, more subjective assessments have been summarized using a rating scale. These evaluations are based on the investigations and assessments documented in this EIS. In developing these alternatives and determining their respective impacts, measures were incorporated to avoid, minimize and mitigate adverse impacts. An option to leave the existing bridge in place for an alternative, non-vehicular use while building a new bridge downstream, as in River Crossing Subcorridor Alternative C, to accommodate all vehicular traffic is not acceptable because the footprint has been kept as narrow as possible to avoid Section 4(f) properties, environmental justice issues, and hazardous waste sites, as well as commercial and industrial establishments.

The Preferred Alternative is based upon three primary considerations – 1) the effectiveness of the alternative in accomplishing the purpose and need of the proposed action; 2) the comparison of the alternative's overall social, economic and environmental impacts and

benefits; and 3) input from the public and review agencies. **The combination of the North Build Alternative, River Crossing Build Alternative A or B (B-1 or B-2) and CBD North Loop Alternative A is the Preferred Alternative.**

1. OTHER ELEMENTS OF THE PREFERRED ALTERNATIVE

Elements from the concepts that were not carried forward as primary alternatives that support the preferred alternative include:

a. Travel Demand Management (TDM)

The continuation of TDM strategies currently in place or anticipated to be provided in the future are not in conflict with the Preferred Alternative. Strategies such as carpooling, vanpooling, flexible working hours are supported and can contribute to improved movement of people and goods.

b. Transportation Systems Management (TSM)

The continuation of TSM strategies currently in place or anticipated to be provided in the future support the Preferred Alternative. TSM strategies such as signal timing and providing for low-cost geometric changes will be considered as elements of the Preferred Alternative. Other TSM strategies such as ramp metering or transit supportive design strategies are not precluded by the Preferred Alternative.

c. High Capacity Transit

Future transit service plans and the SMART Moves Plan are summarized in Chapter I of the DEIS. The SMART Moves plan envisions future operation of service called Freeway Flyers on major freeway routes including I-29 and I-35. The existing and proposed future transit service is supported as part of the Preferred Alternative. Decisions related to use of High Occupancy Vehicle (HOV) lanes will be made as part of a future HOV study conducted outside this EIS. The Preferred Alternative has the flexibility to accommodate a variety of outcomes that may be part of the future HOV study.

d. Bicycle and Pedestrian

The extent that the Missouri River is a constraint to bicycle and pedestrian travel is described in Chapter IV of the DEIS.

As a result of the comments received on the DEIS, MoDOT, in partnership with MARC, conducted a study to identify and evaluate potential bicycle/pedestrian facilities across the Missouri River in the downtown Kansas City area. Representatives from Kansas City, North Kansas City, KCATA, Missouri Bicycle Federation and FHWA were included on the study team. The study included conceptual designs that were of sufficient detail to facilitate discussions and decisions regarding reasonable alternatives for potential facilities. The analysis included federal, state, local and regional policies applicable to bicycle/pedestrian accommodations. MoDOT worked with MARC and the community to select one reasonable alternative that is the priority for the region to be included for construction in the 2008-2012 STIP. The selected alternative will be considered the priority for the region.

Based on the outcome of this study MoDOT is committed to letting for construction a reasonable and safe bicycle/pedestrian facility crossing the Missouri River along Missouri Route 9 between 10th Avenue in North Kansas City and 3rd Street in Kansas City via the Heart of America Bridge by 2012. Since the study area in this NEPA document does not include Missouri Route 9 north across the Missouri River, the appropriate environmental documentation and clearances will be completed as the bicycle/pedestrian project moves forward.

2. PREFERRED ALTERNATIVE COSTS

The total costs of the Preferred Alternative modifications from M-210 to Broadway for an eight-lane configuration are estimated to range from $213 million to $231 million. This is the low-end cost estimate, assuming year 2005 dollars.

3. DESIGN-BUILD PROCESS

a. Design-Build Process

MoDOT and FHWA intend to use the design-build process, rather than the design-bid-build process, to yield transportation solutions for the needs identified and studied in this Environmental Impact Statement (EIS). The limits of the design-build portion of the project extend from the M-210 interchange to the northeast corner of the CBD Loop.

The design-build process allows design of the facility and construction to take place simultaneously by a contractor chosen to design and build the project, in this case, for a specified cost. As in typical design-build projects, construction may begin when about 30 percent of the total design is completed. Time savings and innovation are two advantages of design-build.

MoDOT is developing a new model for design-build on this project. Design-build encourages contractor innovations in design, traffic management and construction phasing. MoDOT's new design-build process will provide optimum opportunity and flexibility for the contractors to develop and apply innovative engineering and construction techniques. Contractor teams will be involved in an interactive but confidential selection process that allows them maximum flexibility to develop and refine their proposals. A "set" contract price will be specified in the request for proposals. Contractor teams will develop a project scope that is within the "set" contract price. The innovative selection process allows the teams to develop concepts for a noteworthy river bridge, as well as other design elements in the corridor, with a minimum amount of guidelines or requirements.

The preferred alternative offered in this EIS is intended to represent a scenario for likely impacts of the project, offering the largest footprint within which any number of options might be proposed. The alternatives offered in the EIS do not limit the proposals the design-build contractor can suggest. For example, the specific layout of the SB I-29/35 ramp for Paseo Boulevard might retain a left-hand exit, as is current, rather than the right-hand exit shown in the EIS. The interchange layouts for the Front Street and the M-210 interchanges might differ from the layouts examined in this EIS. The footprint used within the EIS would accommodate alternatives up to eight through lanes. Proposals from the contractor will be examined to assure we have considered their impacts and also to confirm their ability to meet the purpose and need of the project in a safe and effective manner.

Currently the design-build portion of the project has $195 million in programmed funds. There is an earmark for an additional $50 million, but it is not programmed at this time.

MoDOT has agreed to provide an interchange configuration at Front Street that best suits the development being planned for the riverfront area as long as an additional $10 million is provided to the project.

b. Public Involvement

As reflected in the design-build project goals, MoDOT is committed to involving the public in successfully developing and delivering the project as we move through the design-build process. Prior to awarding the design-build contract, public involvement activities will include a project Web site, newsletters and communications with adjacent property owners. MoDOT will

also work with an advisory group of community representatives, appointed by elected and civic leaders. MoDOT is committed to including the Community Advisory Group in making the decision regarding the bridge type. In addition, MoDOT will hold a public meeting prior to awarding the design-build contract to capture and document the public's priorities for the project. MoDOT also will seek out public events where project information and team members can be made available.

Once a contractor is selected, MoDOT will hold a second public meeting where the selected contractor would be available to answer questions, share their design, and get input from the public on that design. Outreach through the project's Web site and newsletter, as well as outreach to impacted property owners will continue after awarding the design-build contract. Finally, MoDOT will work with the selected contractor to develop and implement plans to inform the public of property impacts and traffic management plans.

c. Interchanges

While exact interchange configurations are not specified in this EIS, the interchange analysis was used to demonstrate feasibility of specific interchange types and was used to determine the maximum construction limits of the build alternatives. Any variation in design, including interchanges, within the footprint will not generate any more impacts than what have already been identified.

MoDOT is committed to providing all of the movements shown in the preliminary interchange layouts regardless of the type of interchange that is proposed and approved for advancing to final design and construction, with the exception of the SB I-29 traffic movement from the Front Street on-ramp to the Paseo Boulevard Exit. In the event that the left exit is maintained, this movement might be restricted in order to provide an acceptable Level of Service for I-29.

In accordance with Federal Requirements, an Access Justification Report is being written to analyze and document the effects of the proposed interchange modifications along the corridor.

d. Missouri River Bridge

There are more than one alternative for the River Crossing Subcorridor portion of this project and three of the four alternatives are considered part of the Preferred Alternative. Leaving the options of retaining or demolishing the existing Paseo Bridge and the bridge type open, gives the design-build contractor the maximum flexibility to deliver a noteworthy bridge that the community can support. The design-build contractor will use the most efficient design and construction methods available, using their capabilities to save money and reduce the construction period compared to traditional design-bid-build.

e. Right-of-Way

The Preferred Alternative includes widening the I-29/35 mainline to six through lanes with a reservation for two additional lanes in the future. MoDOT will be purchasing right-of-way to accommodate at least six through lanes. Where it is economical MoDOT will purchase right-of-way to accommodate eight through lanes. The bridge width will be constructed to accommodate eight through lanes in the future.

f. Environmental Compliance

FHWA and MoDOT have worked to avoid, minimize and mitigate impacts throughout the NEPA process and will continually monitor and assess the proposed design-build alternative to make sure it does not introduce significant impacts that aren't covered in this document. If necessary, a re-evaluation will be completed by FHWA and MoDOT in accordance with 23 CFR 771.129(b) to determine if this FEIS is valid for the design advanced to construction.

4. EFFECTIVENESS IN ACCOMPLISHING PURPOSE AND NEED OBJECTIVES

Each of the alternatives within each subcorridor addresses the purpose and need objectives.

- ***Replace Deteriorating Infrastructure and Modify Interchanges*** – The alternatives would have new, rehabilitated or modified infrastructure and interchanges. However, in some cases, short weaving areas would remain in the Preferred Alternative. CBD North Loop Alternative A would consolidate ramp access to remove short weaving sections on the mainline and shift access thereby improving traffic operations on the I-35/70 mainline.

- ***Improve Traffic Safety*** – All of the alternatives provide a level of design and traffic operations that would result in improved traffic safety by providing a roadway with enhanced roadway geometrics including flatter curves, wider shoulders and longer merging distances. Reduced levels of congestion will result in fewer collisions.

- ***Improve Interstate System Linkage Across the Missouri River*** – The alternatives would increase the person and vehicle capacity of the connecting link between the portions of Kansas City located north and south of the Missouri River. This crossing is also an important system linkage of the interstate highway system and is part of the I-35 North American Free Trade Agreement (NAFTA) trade corridor. The alternatives would maintain and enhance movement and connectivity across the Missouri River.

- ***Provide Sufficient Vehicle Capacity and Improve Traffic Operation*** – All of the alternatives include an initial widening of I-29/35 to six lanes, and reserving for two additional lanes in the future which would improve freeway and interchange capacity to meet future travel demands. Each alternative would eliminate poor traffic weaving sections between Bedford Avenue and Levee Road, between Paseo Boulevard and Front Street and between Broadway and Main Street. It would increase the length of acceleration/deceleration lanes at all interchange ramps, and widen roadway shoulders.

- ***Improve Access to Kansas City CBD and Other Major Activity Centers*** – The alternatives would provide safe and efficient access to-and-from the North Kansas City industrial area located adjacent to the corridor, the North Kansas City Hospital, the Northeast industrial area, the Isle of Capri Casino, Berkley Riverfront Park, the Kansas City CBD, the River Market, the Columbus Park neighborhood, and the Downtown Airport. Between the River Market and the CBD areas and across M-210, wider pedestrian accommodations on bridges and under interchanges would improve connectivity. The Preferred

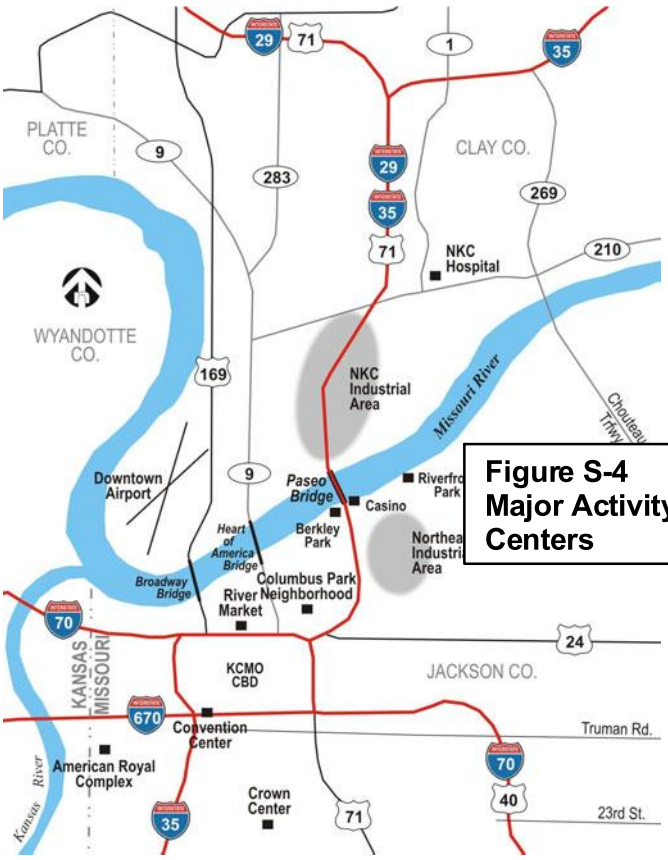


Figure S-4 Major Activity Centers

Alternative would retain the system-to-system connection between M-9 and I-35/70 along the north side of the CBD loop. The alternatives will not result in negative impacts to the existing or planned transit system as defined by SMART Moves. The Preferred Alternative will actually assist in the movement of transit through the corridor. CBD North Loop Alternative A results in shifting access points and reducing the number of access points to the freeway system.

- ***Facilitate the Movement of Trucks*** – Each alternative improves access at the major heavy truck access points of Front Street, Levee Road, Bedford Avenue and 16th Avenue by flattening the grades of entrance ramps, lengthening merge distances, widening truck turning radii and providing auxiliary lanes. These features of the Preferred Alternative improve truck and overall vehicle operations. Each alternative would enhance the movement of international trade on the I-35 NAFTA route, by eliminating the existing capacity bottleneck.

5. SOCIAL, ECONOMIC AND ENVIRONMENTAL CONSIDERATIONS

The social, economic and environmental factors for the alternatives were evaluated and found to be similar. The primary differences in the constraints were in the River Crossing Subcorridor. The designation of the Preferred Alternative is based upon balancing between the various factors and considerations.

a. Social Factors

Impacts to Existing Structures

The alternatives would have similar property impacts.

Neighborhood/Community Cohesion

The Preferred Alternative would have less impact on neighborhood or community cohesion than the other alternatives that were evaluated. The Preferred Alternative was considered by local residents to best serve neighborhood and community cohesion.

Environmental Justice

During the course of the I-29/35 Corridor Study, there has been a concerted effort made to minimize residential displacements so that no residential properties are being taken in full and to minimize other impacts to the adjacent communities and neighborhoods. Public involvement and demographic analysis contributed to identifying and avoiding disproportionate impacts. To serve Spanish and Vietnamese speaking participants, interpreters for both languages were available at both hearings. Additionally, copies of the Draft EIS Summary were translated to Spanish and Vietnamese and made available at the hearings and on MoDOT's web site.

The character of the neighborhoods will not be impacted by this project. Vehicular access to neighborhoods has been preserved and an effort made to maintain those routes which are used by public transit. Noise and air quality impacts have been studied as part of this EIS and are discussed in detail in the DEIS and further discussed in Chapter III and IV of this FEIS. Based upon these efforts, this project will not have disproportionately high impacts to minority or low-income residents in the I-29/35 Corridor.

b. Economic

Project Cost

The Preferred Alternative was the lowest in terms of project cost. The level of detail in the travel demand forecasting did not differentiate access benefits from different alternatives at Front Street and in the CBD. In some cases, benefits such as urban design or pedestrian connectivity cannot be definitively quantified and are not reflected as project benefits.

Economic Access

The Preferred Alternative achieves more efficient economic access by providing additional through lane capacity and modified interchange access. CBD North Loop Alternative A maintains the access to-and-from the CBD and the Northland portion of the Kansas City region and provides operational modifications at access points.

c. Environmental Factors

Parkland

None of the alternatives would have impacts to parklands or recreational areas.

Water Resources

The Preferred Alternative contains four streams: the Missouri River (perennial), two tributaries to the Missouri River (intermittent), and one ephemeral stream. The Preferred Alternative also contains three wetlands: one emergent wetland and one forested wetland along the ephemeral stream north of 16th Avenue, and a forested/emergent wetland fringe around the edge of a pond within the existing ramp at 16th Avenue. However, the ephemeral stream and the three wetland areas were determined to be isolated and non-jurisdictional by the USACE. At the Missouri River, the Preferred Alternative would impact up to 0.12 surface acres of water as the result of pier placement. The two tributaries to the Missouri River would be impacted by culvert extension resulting in up to 269 linear feet of stream being filled, equating to 0.06 acres. The ephemeral stream would not be impacted. Wetland impacts would result from embankment fill in up to 0.06 acre of non-jurisdictional emergent wetland and 0.02 acre of non-jurisdictional fringe forested wetland. The forested wetland along the ephemeral stream would not be impacted. In addition, a 0.56-acre, non-jurisdictional pond within the existing 16th Avenue loop ramp would also be impacted.

Cultural Resources

The Preferred Alternative may result in the construction of a structure or structures replacing the existing Paseo Bridge, which is a National Register of Historic Places eligible bridge. Full replacement would result in the demolition of the existing bridge. There would be no other adverse effect on properties, districts or bridges listed on or eligible for the National Register of Historic Places (NRHP).

The Preferred Alternative would impact two archaeological areas of interest. These include parcel MJA122, the site of the Town of Kansas Graveyard, and parcel VJA117 located at 6th Street and Charlotte. If any of these areas of archaeological interest are to be directly impacted by the proposed I-29/35 construction, they will be investigated to verify the potential of intact remains beneath the modern landscape and thoroughly evaluated to determine the significance of these remains.

Hazardous Waste Sites

The purpose of the hazardous waste assessment was to identify sites within the study corridor that are contaminated or potentially contaminated with hazardous materials or waste. There are three sites within the potential impact area that are screened as having a high potential for contamination where avoidance is desired. These are Site No. 14 American Railcar Industries, 1101 Bedford, North Kansas City, MO; Site No. 20 Cook Paint and Varnish, 919 E. 14th Ave, North Kansas City, MO; and Site No. 40 Kansas City Limited Partnership, 2251 Armour Road, North Kansas City, MO. Although Site No. 20 Cook Paint & Varnish would be avoided, it is part of an industrial complex (between 16th and 14th Avenues, west of I-29/35) comprised of other individual parcels, in which a small portion of open grassed land on Site No. 19 Cook

Composites and Polymers rated as having a low potential for contamination would be acquired. On the parcel that would be partially acquired there are no structures. Two separate sites have a moderate potential for contamination, Site No. 4 and Site No. 6. Both sites are located on the *KCI, Inc.* (formerly Excelsior Steel Furnace) property, located south of Guinotte Street on the east and west sides of I-29/35. Based on preliminary investigations it appears that both sites contains soils that would need to be managed as regulated waste. Further investigations will be completed at the time of property acquisition. Depending on the design of the Front Street interchange, the Preferred Alternative would impact one or two of the KCI sites. A Single Point Urban Interchange design at Front Street would impact both sites. The modified interchange type would impact only one site. Both sites are under the same ownership.

Visual Quality

The visual impacts of views to the road may vary as the bridge type of a new Missouri River crossing is undetermined at this time. If a suspension bridge was not used as the new companion structure a noticeable change would occur. Although some of the bridge options may be considered dissimilar in appearance to the existing bridge, this could also be viewed as a demonstration of progress in bridge design, thereby emphasizing the differences in bridge type and allowing the historic aspect of the existing bridge to stand apart from a new bridge with a more contemporary design. Likewise, the visual quality of new river crossings may be reduced or improved when compared to the existing Paseo suspension bridge, depending on the type of bridges and design character of those bridges. Views from the road are considered to be similar to the No-Build with all of the alternatives, except in those areas that would be developed or redeveloped in the future.

Navigation

For corridor alternatives that include River Crossing Alternative A, piers of a new companion bridge must match the location of the piers of the existing bridge. The first pier on the existing bridge is located 308 feet off of the south bank. Based on correspondence with the U.S. Coast Guard, new bridge spans for Alternatives B and C could be built to roughly match the pier locations of the existing M-9/Heart of America Bridge, with pier locations approximately 450 feet off the south bank of the Missouri River. Due to the natural movement of the river channel to the south, the Coast Guard proposed placement of the piers is different if the existing bridge is removed rather than retained. These pier location and span configuration requirements provide more design options for the bridge type and vertical roadway alignment.

All new bridges must provide a minimum vertical clearance of 55 feet at the standard high water elevation of 734.4 feet mean sea level (2% flowline). The clearances listed above have been approved by the Coast Guard. However, the possibility exists that the Coast Guard would approve matching the M-9/Heart of America Bridge which has 52 feet of vertical clearance from the 2% flow line elevation of 733.1 mean sea level. Any such modification would need to be approved by the Coast Guard before it could be incorporated into the project design.

Noise

The alternatives would expose 106 residences to noise levels ranging from 66 to 77 dBA Leq(h) which would approach or exceed MoDOT's Noise Abatement Criteria of 67 dBA Leq(h). Three locations were identified where noise mitigation would be feasible and reasonable according to MoDOT's Traffic Noise Policy. One location is for the residences and apartment complexes west of I-29/35 and north of Armour Road. The second location is at the Chouteau Courts public housing apartment complex located east of I-29/35 and north of Independence Avenue. A third location would be between Pacific Street and Dora Street west of I-29/35, along the east side of the Guinotte Manor public housing area and the east side of the Columbus Park residential

neighborhood. During future design efforts, possible noise barrier types and locations will be presented and discussed with the residents in these areas.

6. PUBLIC / AGENCY PARTICIPATION AND COMMENT

The residents and community leaders located adjacent to the I-29/35 Corridor have been active in the project development. Input gathered through stakeholder meetings and public information meetings has directly contributed to the collaborative decision-making process by prompting the inclusion of various evaluation considerations.

Resource agency coordination has been ongoing throughout the study. Environmental scoping to identify issues and concerns that could affect the definition and evaluation of the alternatives has been conducted since the beginning of the study, including a formal scoping meeting and ongoing dialog with the various resource agencies. After consultation with the USACE it was decided that the NEPA Section 404 merged process would not be used because the project was thought to be eligible for Section 404 authorization by Nationwide Permit. Since this time it has been determined that the project will likely be permitted under an Individual Permit. However, if final project impacts are determined to be minimal then the USACE may withdraw the Individual Permit and authorize the project using several Nationwide Permits.

7. SUMMARY OF ISSUES

a. Areas of Controversy

In the planning and development of the I-29/35 Corridor alternatives, some issues of potential controversy became apparent. These items were identified through the active coordination of the project with community leaders, potentially affected communities and resource agencies. As with almost any public project of a complex nature, there are varying and diverse viewpoints regarding certain aspects of the proposed modifications. For the I-29/35 Study Corridor modifications, an active community involvement program was utilized to identify these issues early in the study process. Activities such as public meetings, stakeholder meetings, the agency scoping meeting, and other community-oriented outreach events helped bring these issues to attention. In response, actions were put in place and adjustments to the project were made as necessary to address these particular issues.

- ***Bridge Type*** – The existing Paseo Bridge is an unusual structure type. Since its opening in 1954, the unique structural form of the bridge has served as a “gateway” to travelers, signifying entry between the Northland and Downtown. As a self-anchored suspension bridge, the unusual lines of the suspension catenary system and the associated towers have become associated with downtown Kansas City.

  Large civil works projects, particularly long-span bridges over major waterways such as the Missouri River, provide an opportunity for the project to be an expression of the surrounding community. In this regard, Kansas City’s civic leadership has expressed two desires. Most critical to the community is that a unique and noteworthy bridge structure be provided if the Paseo Bridge is to be replaced. Secondly, the community leaders requested that the type of bridge for the Missouri River crossing be a major consideration in the Preferred Alternative recommendation.

  Due to the numerous bridge type options available for each river crossing alternative and the numerous factors involved, the approach utilized for the EIS focused first on the route location. The route location recommendation (i.e., Preferred Alternative) was based on the physical and operational constraints of the crossing location, life-cycle cost considerations, and the overall flexibility of the alternative to enable the community to participate in the type of structure determination. The opportunity for each alternative to

provide a unique bridge structure was considered in the evaluation of the alternatives. River Crossing Subcorridor Alternative A or B, the Preferred Alternative, provides an opportunity for the new Missouri River crossing to be a unique and special structure. The bridge type will be determined after this EIS is completed.

- ***Missouri River Bicycle/Pedestrian Crossing*** – With the planned widening of the I-29/35 Study Corridor, pedestrian and bicycle advocates have expressed the desire for pedestrian mobility issues to be addressed as part of the proposed action in this EIS. The Missouri River is a major barrier for pedestrian and bicycle interactions between the Northland and Downtown. For some time, Kansas City transportation leadership has struggled with the ability to improve pedestrian and bicycle mobility across the river. Possible access over the river has been focused on existing bridge crossings. The Broadway Bridge is not considered a compatible corridor for pedestrians. However, the Heart of America Bridge, which has at-grade access north of the river and slower posted speeds, is much more compatible for pedestrian travel. Consequently, previous area-wide planning has focused on the future pedestrian role of the Heart of America Bridge. One desire expressed is that a new pedestrian/bicycle river crossing be constructed at or adjacent to I-29/35.

  As a result of the comments received on the DEIS, MoDOT, in partnership with MARC, conducted a study to identify and evaluate potential bicycle/pedestrian facilities across the Missouri River in the downtown Kansas City area. Representatives from Kansas City, North Kansas City, KCATA, Missouri Bicycle Federation and FHWA were included on the study team. The study included conceptual designs that were of sufficient detail to facilitate discussions and decisions regarding reasonable alternatives for potential facilities. The analysis included federal, state, local and regional policies applicable to bicycle/pedestrian accommodations. MoDOT worked with MARC and the community to select one reasonable alternative that is the priority for the region to be included for construction in the 2008-2012 STIP. The selected alternative will be considered the priority for the region.

  Based on the outcome of this study MoDOT is committed to letting for construction a reasonable and safe bicycle/pedestrian facility crossing the Missouri River along Missouri Route 9 between 10th Avenue in North Kansas City and 3rd Street in Kansas City via the Heart of America Bridge by 2012. Since the study area in this NEPA document does not include Missouri Route 9 north across the Missouri River, the appropriate environmental documentation and clearances will be completed as the bicycle/pedestrian project moves forward.

- ***Columbus Park Neighborhood*** – Columbus Park residents have expressed concern about the indirect impacts of the proposed action on their neighborhood. These issues and concerns have generally revolved around proximal impact issues, such as noise, visual effects, and changes in vehicular access. Coordination with the community took place as the various alternatives were refined and evaluated to avoid and minimize any effects to the community. In some locations, the additional highway capacity on I-29/35 would result in locating the highway lanes closer to the neighborhood fringe. Although a right-hand exit at Paseo Boulevard would require additional right-of-way in the vicinity of Columbus Park, it would not require the acquisition of any residential properties.

- ***M-210/Armour Road Access Management*** – The southeast quadrant of the M-210 Interchange with I-29/35 is being redeveloped by North Kansas City. Many of the properties are now owned by North Kansas City and a number of them will be removed by the city for their redevelopment project. Maintaining the most direct access to this

area is desired by the city for the redevelopment to be successful. However, one purpose of the highway modifications at this location is to provide better management and control of driveway and entrance access along M-210/Armour Road. Meetings have been conducted with North Kansas City to find solutions that meet both the needs of the highway system and the planned redevelopment. Access management in the M-210 interchange area will be further coordinated with the City of North Kansas City during the project design phase.

b. Unresolved Issues

The potential impacts of each alternative have been assessed, evaluated and compared in sufficient detail to characterize the degree of impact and the relative differences of the alternatives. However, for some issues, more detail is necessary to identify more precisely the impacts of the project and to better define the modifications, particularly regarding its design features.

- ***Bridge Type*** – The type of bridge structure for the Preferred Alternative's Missouri River crossing has not yet been defined. The Preferred Alternative recommendation (i.e., River Crossing Subcorridor Alternative A or B) is based on issues irrespective of bridge type, leaving the bridge type to be determined during project design. The subsequent bridge type recommendation will be based on the physical, operational, navigational, economic and environmental impact constraints defined for the Missouri River crossing, as well as community involvement.

  Numerous bridge type options are available for the new Missouri River crossing. More detailed study of the Preferred Alternative is necessary to identify the type of structure to be constructed. Constraints affecting the bridge's design features are identified in this EIS, including the bridge alignment and navigational requirements. Based on the general span requirements of the crossing, a number of bridge types are feasible, including a plate girder, concrete box girder, trusses, suspension, a tied arch, or a cable-stayed structure. Retention of the existing suspension bridge in the ultimate facility also would affect the type of companion structure. The determination of the bridge type will consider the construction and maintenance costs of the bridge. The bridge type evaluation would also consider the bridge's ability to be an expression of the community while being sensitive to financial constraints of the project. See text regarding design-build in Section F. 3. of this chapter for more information on the bridge type determination.

- ***Hazardous Waste Investigations*** – A number of properties in the project corridor have potential for hazardous waste concerns based on the type of business or known hazardous waste activity in the past. Investigation and cleanup of these sites may be necessary prior to construction.

- ***Section 106 Process*** – A Memorandum of Agreement for the NRHP eligible Paseo Bridge, other properties in or eligible for inclusion in the National Register and areas of archaeological interest has been coordinated between the State Historic Preservation Office (SHPO) and FHWA and is included in Appendix F.

- ***Urban Design Issues*** – MoDOT is committed to working with Kansas City and North Kansas City to consider shared financial responsibility related to providing urban design treatments and aesthetics at interchanges and bridges in the I-29/35 EIS corridor and in the north loop of the CBD. There are opportunities in the CBD North Loop Subcorridor to work with the local agencies and neighborhoods regarding certain types of corridor enhancements or urban design elements that could be integrated into the proposed action and funded by federal, state and/or local sources. Use of integrated urban design

enhancements will help to better connect the CBD to the River Market and Columbus Park areas.

- ***Maintenance of Traffic During Construction*** – The option of closing the Paseo Bridge or other portions of I-29/35 within the study corridor during construction of the project is being considered. This decision would take place following proposals of construction concepts and coordination with city officials, law enforcement and emergency services officials, adjacent property owners and receipt of public input.

c. Future Coordination

Following approval of the Record of Decision, ongoing coordination with the public, stakeholders, organizations and resource agencies would continue to develop and fulfill appropriate mitigation measures and commitments. Project coordination will continue into the future during project design and construction. Additional decision-making related to future coordination will be made when more detailed design information becomes available.

G. Project Constraints

The following section includes a list of the constraints within the I-29/35 Study Corridor that will be avoided during design and construction. Any new likelihood of impacting any of the listed resources during design and construction will require that further studies be conducted; this could have significant cost and schedule implications.

1. KNOWN SECTION 4(f) RESOURCES

The Paseo Bridge is the only known Section 4(f) resource that could potentially be impacted by the project depending on whether it is retained for the ultimate facility or not. A Programmatic Section 4(f) Evaluation that addresses the bridge is included in Appendix E. The Section 4(f) process has been completed and signed as if the Paseo Bridge is being removed. The Section 4(f) Evaluation will only be applicable in the event that the Paseo Bridge is removed as that has yet to be determined. In addition, there are two areas of archaeological interest. These two areas would need to be further evaluated before a recommendation on NRHP eligibility could be made. These two areas could potentially be impacted by the project. If modifications to the project are made that impact the cultural resources that are on or eligible for listing on the NRHP, then the Memorandum of Agreement executed for this project will address steps to be taken to address those impacts.

Public parks will not be impacted by the proposed action.

a. Public Parks

The following is a list of the public parks, located near the project, which will be avoided:

- River Forest Park
- Richard L. Berkley Riverfront Park
- Kessler Park
- Belvidere Playground
- Margaret Kemp Park
- Garrison Square
- Columbus Square
- River Bluff Park
- West Terrace/Case Park

b. Cultural Resources

Table S-3 lists those cultural resources that are on or eligible for the NRHP that will be avoided by the project.

Table S-3
Cultural Resources to be Avoided

Name/Number	Location	Type
Kansas City Masonic Temple JA101	903 Harrison (Plate A-06)	NRHP Building
Kelley-Reppert Motor Company JA126	416-429 Admiral (Plate A-07)	NRHP Building
Buick Automobile Co. Bldg. JA134	216-220 Admiral (Plate A-07)	NRHP Building
Western Union Telegraph Building JA140	100-114 E. 7th (Plate A-07)	NRHP Building
Old Town Historic District	Old Town Historic District (Plates A-07 & A-08)	NRHP District
Wholesale District	Wholesale District (Plates A-08 & A-09)	NRHP District
JA4	1426 Guinotte (Plates A-03, B1-03 & B2-03)	Commercial
LJA9	Kessler Park (Plates A-03, A-04, A-05, B1-03, B1-04, B2-03 & B2-04)	Landscape
JA73	569-571 Campbell (Plate A-06)	Residential
JA86	520-526 Holmes (Plate A-07)	Apartment
JA89	611-613 Forest (Plates A-05 & A-06)	Apartment
JA98A	1015 E. 8th St. (Plate A-06)	Commercial
JA107A	703 E. 10th St. (Plate A-06)	Apartment
JA157	340 W. 5th St. (Plate A-08)	Commercial
JA129	404-406 Admiral (Plate A-07)	Commercial
JA130	400 Admiral (Plate A-07)	Commercial
JA131	411-417 E. 6th St. (Plate A-07)	Commercial
JAB27	South of Broadway Bridge (not shown on Plates)	Bridge
JAB24/A4649	Broadway, over MO River (not shown on Plates)	Bridge

Note: Plates referenced in this table are included in Appendix C.

2. HAZARDOUS WASTE

There are three sites within the potential impact area that are screened as having a high potential for contamination and where avoidance is warranted. These are Site No. 14 American Railcar Industries, 1101 Bedford, North Kansas City, MO; Site No. 20 Cook Paint and Varnish, 919 E. 14th Ave, North Kansas City, MO; and Site No. 40 Kansas City Limited Partnership, 2251 Armour Road, North Kansas City, MO. If necessary, portions of the property boundaries of Sites 14 and 20 may be taken with appropriate detailed investigation. However, Site No. 40 is a Superfund site (National Priorities List of the Comprehensive Environmental Response, Compensation and Liability Information System database) located at the east side of the north end of the study corridor. No excavation will take place in the proximity of this property without more detailed investigation.

3. MISSOURI RIVER CROSSING

The Coast Guard has indicated that the vertical clearance to the superstructure for all of the options should be 55 feet above the 2% flowline. However, the possibility exists that the Coast Guard would approve matching the M-9/Heart of America Bridge which has 52 feet of vertical clearance from the two percent flow line elevation of 733.1 mean sea level. Any such

modification would need to be approved by the Coast Guard before it could be incorporated into the project design.

Based on correspondence with the Coast Guard, new bridge spans for the Preferred Alternative could be built to roughly match the pier locations of the existing M-9/Heart of America Bridge, with pier locations approximately 450 feet off the south bank of the Missouri River. These pier location and span configuration requirements provide more design options for the bridge type and vertical roadway alignment. Due to the natural movement of the river channel to the south, the Coast Guard proposed placement of the piers is different if the existing bridge is removed rather than retained. If the existing bridge remains and another bridge is added, the piers of the new bridge must match the location of the piers of the existing bridge. The first pier on the existing bridge is located 308 feet off of the south bank.

H. List of Commitments

The following is a summary of the commitments offered in this I-29/35 Environmental Impact Statement (EIS). Please refer to subsequent chapters of this EIS for details regarding specific commitments. This list may not be all-inclusive and is not firm until the Record of Decision is approved.

1. MoDOT is responsible for implementing Intelligent Transportation Systems (ITS) strategies as part of the Kansas City Scout project. As part of the Preferred Alternative, MoDOT will incorporate suitable and reasonable ITS elements consistent with KC Scout programs and projects.

2. The contractor will coordinate with MoDOT to develop maintenance of traffic plans for the construction phases. Some interchange ramps and cross roads will be closed and temporary detours required. In addition, the possibility that the Paseo Bridge or other portions of the I-29/35 Study Corridor be closed during all or part of the construction period for this project may be considered. Construction schedules, road closures and detours will be coordinated with local officials, police forces and emergency services to reduce impacts to response times of these agencies. MoDOT's communication with the cities and their emergency services during construction will be imperative in order to facilitate the planning of temporary alternate routes for emergency vehicles.

3. MoDOT will coordinate with area businesses regarding access issues, via direct communication throughout the construction period.

4. MoDOT will coordinate with local public service and utility service providers during the final design phase of the project and during the construction.

5. MoDOT will ensure that any right-of-way acquisition and relocations will be accomplished in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended. Relocation assistance under this program will be made available to all relocated persons without discrimination. MoDOT will examine ways to further minimize property impacts throughout the corridor, without compromising the safety of the proposed facility, during subsequent design phases.

6. During construction, MoDOT's specifications, Missouri Department of Natural Resources (MDNR) Solid Waste Management Program, and MoDOT's Sediment and Erosion Control Program will all be followed. MoDOT will require that all contractors comply with all applicable state and federal laws and regulations relating to noise levels permissible within and adjacent to the project construction site. To minimize impacts associated with construction, pollution control measures outlined in MoDOT's specifications will be used.

These measures pertain to air, noise and water pollution as well as traffic control and safety measures.

7. Through MoDOT's approved Pollution Prevention Plan for the National Pollutant Discharge Elimination System (NPDES), the control of water pollution will be accomplished. The plan specifies berms, slope drains, ditch checks, sediment basins, silt fences, rapid seeding and mulching and other erosion control devices or methods as needed. In addition, all construction and project activities will comply with all conditions of appropriate USACE and Missouri Department of Natural Resources permits and certifications.

8. MoDOT will continue to coordinate with the USACE, Environmental Protection Agency (EPA), and the Missouri Department of Natural Resources to develop appropriate mitigation strategies that are deemed necessary as compensation for project impacts to Waters of the U.S.

9. The project construction will incorporate those features necessary to meet National Flood Insurance Program (NFIP) standards, Federal Emergency Management Agency (FEMA), and State Emergency Management Agency (SEMA) guidelines.

10. MoDOT will minimize lighting impacts. Efficient lighting and equipment will be installed, where appropriate, to optimize the use of light on the road surface while minimizing stray light intruding on adjacent properties.

11. MoDOT will continue to coordinate with the SHPO and comply with the National Historic Preservation Act.

12. Future design and construction of bridge piers will be discussed with the U.S. Fish and Wildlife Service (USFWS), Coast Guard and the Missouri Department of Conservation (MDC) during the design phase to consider seasonal patterns of habitat use, potential habitat areas and existing habitat of the pallid sturgeon and other threatened or endangered species that might be present. See MoDOT's letter of June 15, 2006 located in Appendix G of this document.

13. Plans for suitable pedestrian and bicycle access upon streets crossing I-29/35 and I-35/70 will be considered during the design of the interchanges and bridges where warranted. Existing sidewalks will be replaced.

14. MoDOT is committed to letting for construction a reasonable and safe bicycle/pedestrian facility crossing the Missouri River along Missouri Route 9 between 10th Avenue in North Kansas City and 3rd Street in Kansas City via the Heart of America Bridge by 2012. Since the study area in this NEPA document does not include Missouri Route 9 north across the Missouri River, the appropriate environmental documentation and clearances will be completed as this bicycle/pedestrian project moves forward. MoDOT will continue to work with MARC and the community on an appropriate design for the improvements to the Heart of America corridor.

15. The MoDOT Noise Policy will be used to address noise impacts. Noise abatement measures will be considered that are deemed reasonable, feasible and cost effective. Where appropriate, possible noise abatement measures will be presented, discussed and decided with the benefited residents during the design phase.

16. Public outreach efforts during future project phases will be made through a variety of publications to increase awareness of the project and encourage comments from all communities, including minority communities.

17. Access to residences, businesses and local streets in the M-210 interchange area will be further coordinated with the City of North Kansas City during the project design process.

18. MoDOT will work with the appropriate city governments and stakeholders to develop an appropriate context sensitive urban design approach allowing the integration of enhancements along the corridor and to determine financial and maintenance responsibilities. The design and physical appearance of future bridges, retaining walls and other barriers will be explored as part of an integrated context sensitive urban design approach for the corridor to ensure the appearance from the roadway as well as from the residential areas will complement the visual character of the surrounding area.

19. MoDOT will coordinate with the Kansas City Area Transportation Authority, MARC, and other appropriate agencies as they analyze current and planned transit services in the EIS study area, separate from this NEPA document, to identify opportunities to enhance transit service/transit operations in the corridor. MoDOT will discuss the location of piers on structures south of Front Street relative to the potential commuter rail.

20. Prior to any future decision to expand the I-29/I-35 corridor beyond 6 lanes, MoDOT will coordinate with MARC, the Kansas City Area Transportation Authority, and other appropriate agencies and local governments to analyze a broad range of options for the additional lanes, including, but not limited to High Occupancy Vehicle Lanes.

21. As reflected in the design-build project goals, FHWA and MoDOT are committed to involving the public in successfully developing and delivering the project through the design-build process. Prior to awarding the design-build contract, public involvement activities will include a project Web site, newsletters and communications with adjacent property owners. MoDOT also will work with an advisory group of community representatives, appointed by elected and civic leaders. This group will help the project team identify and capture public priorities for various aspects of the project. These ideas will be summarized and broadly shared with members of the project team, prospective contractors and the public. MoDOT is committed to including the Community Advisory Group in making the decision regarding the bridge type. In addition, MoDOT will hold a public meeting prior to awarding the design-build contract to capture and document the public's priorities for the project. MoDOT also will seek out public events where project information and team members can be made available.

    Once a contractor is selected, MoDOT will hold a second public meeting where the selected contractor would be available to answer questions, share their design, and get input from the public on that design. Outreach through the project's Web site and newsletter, as well as outreach to impacted property owners will continue after awarding the design-build contract. Finally, MoDOT will work with the selected contractor to develop and implement plans to inform the public of property impacts, including traffic management plans.

22. MoDOT will construct a noteworthy bridge that the community can support, within the budgetary and scheduling constraints of the design-build project. .

23. If demolition of the existing suspension bridge is chosen, MoDOT and FHWA will work with the USFWS and the contractor to monitor the river with tracking equipment for any radio tagged sturgeon during demolition activities. If bridge demolition is necessary, MoDOT will conduct a survey of the bridge for the presence of migratory birds. If any are present, the USFWS has recommended scheduling demolition outside of the April 15 to August 1 nesting season, to the extent possible.

24. The proposed action will conform to all applicable state floodplain protection standards. A hydraulic design study that addresses various structure size alternatives will be completed during design.

25. A drilling and blasting program will be prepared, during design development, which will place limits or controls on drilling and blasting activities.

Regulatory Requirements

MoDOT will fulfill federal and state environmental regulatory requirements for all applicable laws, regulations and executive orders through subsequent project design, property acquisition and construction. These include, but are not limited to, the following:

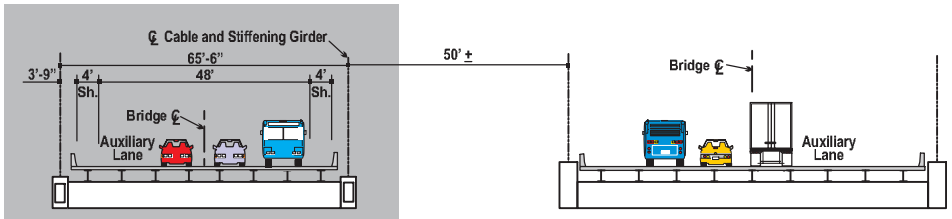
- The Clean Water Act
- The Clean Air Act Amendments
- The Endangered Species Act
- The National Historic Preservation Act
- Various Hazardous Waste and Solid Waste Acts
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act
- FEMA and SEMA Requirements
- The Noise Control Act of 1972
- Title VI of the Civil Rights Act of 1964
- Executive Order 12898 (Environmental Justice)
- Section 4(f) of the USDOT Act

Environmental Impact Statement

EXHIBIT **S-1**

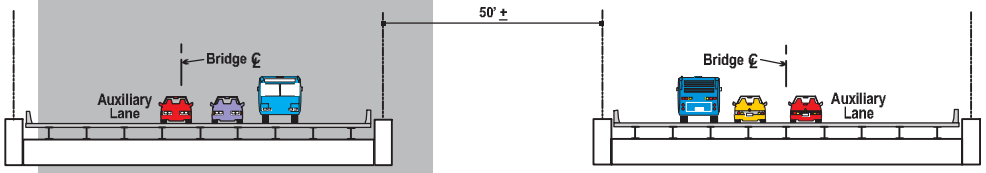
Missouri River Bridge Options

Option 1



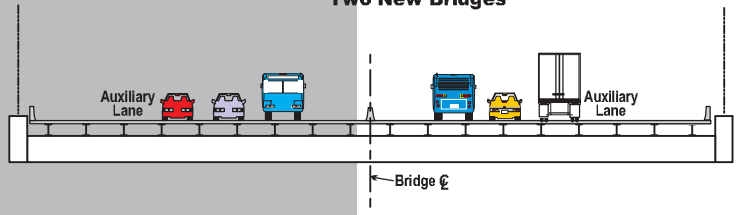
Existing Rehabilitated Bridge (Southbound)

New Companion Bridge (Northbound)



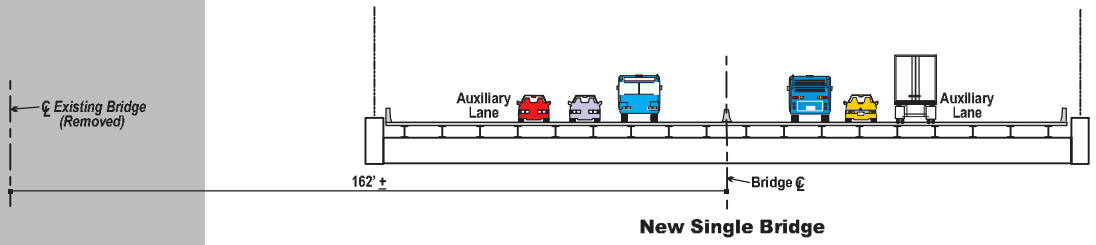
Option 2 { Two New Bridges OR New Single Bridge

Two New Bridges



New Single Bridge*

Option 3



Existing Right-of-Way

New Single Bridge

*The exact horizontal location will be determined during the Design-Build process.

Environmental Impact Statement

EXHIBIT S-2a

Summary of Impacts

EVALUATION FACTORS	UNITS	PROJECT ALTERNATIVES								
		No-Build	1	2	3	4	5	6	7	8
	North Subcorridor	No-Build	Build	Build	Build	Build	Build	Build	Build	Build
	River Crossing Subcorridor	No-Build	Alt. A	Alt. A	Alt. B-1	Alt. B-1	Alt. B-2	Alt. B-2	Alt. C	Alt. C
	CBD North Loop Subcorridor	No-Build	Alt. A	Alt. B	Alt. A	Alt. B	Alt. A	Alt. B	Alt. A	Alt. B
ENGINEERING & TRAFFIC CONSIDERATIONS										
PROJECT COST										
Roadway Construction Cost Estimate[1]	$ (Million)	$86.4	$158.5	$189.0	$160.4	$190.9	$170.3	$200.8	$170.3	$200.8
River Bridge Construction Cost Estimate[1]	$ (Million)	$13.8	$49.1	$49.1	$54.4	$54.4	$54.4	$54.4	$54.4	$54.4
Right-of-Way and Relocation Cost[1]	$ (Million)	NA	$6.2	$6.2	$6.2	$6.2	$6.5	$6.5	$10.8	$10.8
TOTAL PROJECT COST[1]	$ (Million)	$100.2	$213.8	$244.3	$221.0	$251.5	$231.2	$261.7	$235.5	$266.0
30-Year Operation and Maintenance Costs	$ (Million)	$1.3	$2.4	$2.4	$2.4	$2.4	$2.4	$2.4	$2.4	$2.4
Unique Bridge Additional Cost	$ (Million)	NA	$14.1 to $16.2	$14.1 to $16.2	$3.5 to $39.5	$3.5 to $39.5	$3.5 to $39.5	$3.5 to $39.5	$3.5 to $39.5	$3.5 to $39.5
CONSTRUCTABILITY ISSUES										
Timing/Staging	Rating		○	◒	◒	◒	◒	◒	◒	◒
Difficulty of Construction	Rating		○	◒	◒	◒	◒	◒	◒	◒
Traffic Accommodation During Construction	Rating		◒	◒	◒	◒	◒	◒	◒	◒
Impacts to Adjacent Properties	Rating									
RIVER BRIDGE MAINTENANCE	Rating		◒	◒	○	○	○	○	○	○
RIVER BRIDGE ENHANCEMENT OPPORTUNITY	Rating		◒	◒	○	○	○	○	○	○
RIVER BRIDGE TYPE OPTIONS	Rating		●	●	○	○	○	○	○	○
LEVEL OF SERVICE Mainline (2030)	Peak Hour LOS	D-F*	C-D*	C-D*	C-D*	C-D*	C-D*	C-D*	C-D*	C-D*
SAFETY[2]										
Crashes 2030 - (PDO)	Number	708	858	858	892	892	892	892	892	892
Crashes 2030 - (Injury)	Number	2171	405	405	348	348	348	348	348	348
Crashes 2030 - (Fatal)	Number	2	0	0	0	0	0	0	0	0
Crashes 2030 - (Total)	Number	2,881	1,263	1,263	1,240	1,240	1240	1240	1240	1240
Crashes 2030 - (Rate)	Number (HMVMT)	246.1-577.5*	121.6-156.6*	121.6-156.6*	121.6	121.6	121.6	121.6	121.6	121.6
SOCIAL CONSIDERATIONS										
TOTAL ACQUISITIONS										
Single-Family Residential	Dwelling Units	0	0	0	0	0	0	0	0	0
Multi-Family Residential	Dwelling Units	0	0	0	0	0	0	0	0	0
Business	Establishments	0	8	8	8	8	8	8	8	8
Public/Semi-Public Facilities[3]	Buildings	0	0	0	0	0	0	0	0	0
PARTIAL ACQUISITIONS										
Single-Family Residential	Number	0	3	4	3	4	3	4	3	4
Multi-Family Residential	Number	0	1	1	1	1	1	1	1	1
Business	Number	0	26	26	26	26	26	26	26	26
Business	Buildings	0	2	2	2	2	2	2	2	2
Public/Semi-Public Facilities[3]	Number	0	9	9	9	9	8	8	8	8
NEIGHBORHOOD/COMMUNITY COHESION	Rating		◒	◒	◒	◒	◒	○	◒	○
ECONOMIC CONSIDERATIONS										
ECONOMIC ACCESS[4]	Rating		+ -	+	+ -	+	+	++	+	++

Rating Scale: ○ Low Impact ◒ Low/Moderate Impact ◒ Moderate Impact ● Moderate/High Impact ● High Impact

NOTE: Reasonable Alternatives are defined in Chapter II -- Alternatives. Preferred Alternative shown as shaded. Alternative A or B is the Preferred Alternative for the River Crossing. This means that A, B-1 or B-2 could be selected. The letters and/or numbers with an "*" represent a range for the three subcorridors.

1 Assumes year 2005 dollars. Low End Cost Estimate = utilizing existing bridges at 16th Avenue, Bedford RR tracks, & Front Street RR tracks.

2 Accident statistics and safety data summarized and presented in this table are protected under federal law. See Appendix A.

3 Does not include public parks/recreation facilities subject to Section 4(f).

4 Uses Impact Factors Rating Scale: ++Strong Positive + Positive +- Neutral - Negative - - Strong Negative

NOTE: 'Partial Acquisitions' in this table in the DEIS did not reflect the total number correctly due to a calculation error. The numbers were reflected correctly in the text and in the exhibits in Chapter IV of the DEIS.

Summary of Impacts

EVALUATION FACTORS	UNITS	PROJECT ALTERNATIVES								
		No-Build	1	2	3	4	5	6	7	8
	North Subcorridor	No-Build	Build	Build	Build	Build	Build	Build	Build	Build
	River Crossing Subcorridor	No-Build	Alt. A	Alt. A	Alt. B-1	Alt. B-1	Alt. B-2	Alt. B-2	Alt. C	Alt. C
	CBD North Loop Subcorridor	No-Build	Alt. A	Alt. B	Alt. A	Alt. B	Alt. A	Alt. B	Alt. A	Alt. B
ENVIRONMENTAL CONSIDERATIONS										
PARKLAND – Section 4(f)/6(f)	Number	0	0	0	0	0	0	0	0	0
Total Permanent Impacts	Acres	0	0	0	0	0	0	0	0	0
RIVERFRONT HERITAGE TRAIL	No. of Crossings	0	1	1	1	1	1	1	1	1
AIR QUALITY	CO Exceedences	0	0	0	0	0	0	0	0	0
IMPACTED NOISE RECEPTORS	Dwelling Units	0	106	106	106	106	106	106	106	106
WATER RESOURCES										
Streams	Number	0	3	3	3	3	3	3	3	3
	Linear Feet	0	269	269	269	269	269	269	269	269
Wetlands	Acreage	0	0.08**	0.08**	0.08**	0.08**	0.08**	0.08**	0.08**	0.08**
Ponds	Acreage	0	0.56**	0.56**	0.56**	0.56**	0.56**	0.56**	0.56**	0.56**
FLOODPLAINS	Linear Feet	0	1900	1900	1900	1900	2150	2150	2150	2150
	Acreage	0	1.59	1.59	1.59	1.59	1.88	1.88	1.88	1.88
NATURAL COMMUNITIES										
Upland Forests	Acreage	0	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
Riparian Forests	Acreage	0	0.64	0.64	0.64	0.64	0.64	0.64	1.29	1.29
THREATENED & ENDANGERED SPECIES	Number	0	1	1	1	1	1	1	1	1
CULTURAL RESOURCES										
NRHP Listed Historic Properties - Adverse Effect	Number	0	0	0	0	0	0	0	0	0
NRHP Listed Historic Districts - Adverse Effect	Number	0	0	0	0	0	0	0	0	0
NRHP Eligible Architectural Resources - Adverse Effect	Number	0	0	0	0	0	0	0	0	0
NRHP Eligible Historic Districts - Adverse Effect	Number	0	0	0	0	0	0	0	0	0
NRHP Eligible Bridges - Adverse Effect	Number	0	0	0	1	1	1	1	1	1
Historic Archaeological Area of Interest - Adverse Effect	Number	0	0	2	0	2	0	2	0	2
HAZARDOUS WASTE SITES (Hi or Mod. Pot.)	Number	0	1	1	1	1	2	2	2	2
VISUAL QUALITY / AESTHETICS										
Views Of The Road[4]	Rating		-	-	+ -	+ -	+ -	+ -	+ -	+ -
Views From The Road[4]	Rating		+	+	+	+	+	+	+	+

Rating Scale: ○ Low Impact ◒ Low/Moderate Impact ◒ Moderate Impact ◒ Moderate/High Impact ● High Impact

NOTE: Preferred Alternative shown as shaded. Alternative A or B is the Preferred Alternative for the River Crossing. This means that A, B-1 or B-2 could be selected

1 Assumes year 2005 dollars. Low End Cost Estimate = utilizing existing bridges at 16th Avenue, Bedford RR tracks, & Front Street RR tracks.

2 Accident statistics and safety data summarized and presented in this table are protected under federal law. See Appendix A.

3 Does not include public parks/recreation facilities subject to Section 4(f).

4 Uses Impact Factors Rating Scale: + + Strong Positive + Positive + - Neutral - Negative -- Strong Negative

**Wetlands and pond impacts are non-jurisdictional. .

NOTE: The number of 'Wetlands' impacts was not reflected in this table in the DEIS. The number was reflected correctly in the text in Chapter IV of the DEIS.